

northern Illinois (which will be more fully noticed under the head of "Tornadoes"), and thunder-storms were general in the Upper Lake region. Cautionary Signals were ordered up on Lake Superior and the western shore of Lake Michigan, on the evening and midnight of the 22nd, and for eastern shore of Lake Michigan, and Lakes Huron and Erie on the 23rd. Maximum velocities, Marquette, SE., 30 miles; Milwaukee, SW., 48, and Alpena, W., 28. 24th to 27th, centre moved eastward to the Gulf of St. Lawrence, probably about as shown on the chart of storm-tracks; severe thunder-storms were reported on the 25th in North Carolina, where heavy hail did considerable damage to crops, and in New Hampshire; 26th, severe thunder-storm near Providence, R. I., and hail-storm at Cooperstown, N. Y.; On the summit of Mt. Washington, a severe thunder-storm with hail occurred, during which the wires were so powerfully affected that it was necessary to withdraw the switch cut-out; 27th, hurricane from NW., 102 miles per hour.

No. XIII—probably developed in Nevada, Utah and southern Idaho on the 27th, while high-pressure area No. VI was in Manitoba. During the latter part of the 26th the pressure fell from California to Utah, and, at 11 p. m., 27th, the lowest barometer was at Salt Lake City, (29.47, or 0.39 below normal; cloudy and threatening weather and light rains extended thence to Dakota, Nebraska and Kansas, with high south winds in two latter. 28th, 4:35 p. m., Salt Lake City, barometer 29.50, or 0.36 below normal, with brisk to high southeast to southwest winds in Nevada and Utah. From 11 p. m., of the 28th, to 11 p. m., 29th, the barometers were lowest at Cheyenne and Denver, (ranging from 0.08 to 0.19 below normal,) and, during the afternoon of the 29th, the observer on the summit of Pike's Peak reported a southwest gale of 80 miles per hour, "blowing towards a heavy local storm over the plains about 20 miles to the northeast." During the afternoon of the 30th the centre probably moved south-eastward to western Kansas; a very severe hail-storm occurred during the afternoon at North Platte—the observer states "hail fell as large as hen's eggs, some masses of ice weighed 1½ lbs, breaking all glass on W, NW and N exposures and cutting holes in tin roofs; temperature fell 21° in 10 minutes; storm extended 15 miles in length and 5 in width." 4:35 p. m. temperature at North Platte, 62°, wind N, 24 miles; Dodge City, 92°, wind SW, 20. During the 31st, the lowest pressure remained almost stationary, but severe local storms occurred in Missouri and Illinois; Springfield, Mo., 5:15 p. m., heavy wind and rain storm—total rainfall 3.25 inches, max. vel. of wind 60 miles, veering to N, with hail. Gardner, Ill., tornado, destroying buildings. Davenport, Ia., severe thunder-storm, wind SE, 48 miles, blowing down trees &c; "during the severe wind several whirlwinds formed along the river, which gathered up the water and whirled it upward ten to twenty feet in spiral columns."

No. XIV.—During the early morning of the 29th, a severe thunder-storm prevailed in southern Iowa, accompanied by very heavy rains; six inches fell at Glenwood, Mills Co., causing heavy floods, and, during the day the barometric trough extended eastward from area No. XIII throughout the Ohio valley, in which region a distinct area of low pressure formed by morning of the 30th. This area passed over the Middle Atlantic States, during the latter part of the day, accompanied by heavy thunder-storms.

INTERNATIONAL METEOROLOGY.

April 10th, lat. 27° 30' S., 105° 48' W., violent hurricane. 11th, Bark Lilly Grace, from Pabellon de Pica for New York, reports: "experienced terrible hurricane during night, in lat. 36° S., put into Valparaiso, April 24th. 21st, 26° N., 56° W., heavy gale; 43° N., 44° W., hurricane, sea mountains high; 38° N., 60° W., heavy seas. 30th, 51° 02' N., 25° 02' W., fresh northeast to northwest winds and squalls.

May 1st, first arrival of season at Halifax, N. S., from Magdalen Islands, reported unusually mild winter, little snow and islands clear of ice until February; 48° 26' N., 31° 40' W., strong NW. breeze, squalls; 47° 01' N., 34° 38' W., heavy NW. rain-squalls; 50° 38' N., 33° 00' W., fresh NW. gale, hard squalls and heavy sea. 2nd, 46° 28' N., 38° 16' W., fresh NW. breeze and squalls; 50° 28' N., 38° 06' W., strong NNW. gale, heavy sea. 3rd., 44° 36' N., 44° 52' W., fresh SSW. gale; 43° 56' N., 46° 41' W., stormy, wind SW. much water on deck. 4th, 45° 46' N., 46° 10' W., strong W. gale; 49° 26' N., 29° 37' W., wind WSW., stormy, rain and high sea; 42° 58' N., 49° 20' W., strong WNW. and NNW. gale, high confused sea; 43° 04' N., 50° 50' W., westerly storm, much water on deck; 49° 38' N., 29° 40' W., WSW. gale, high sea; 47° 58' N., 31° 26' W., SW. gale, high sea; 50° 24' N., 19° 29' W., W. gale, rain, high sea; 51° 11' N., 29° 09' W., (7:35 a. m., Washington mean time) barometer 29.18, S. 5° W. gale and high sea. 5th, 48° 06' N., 35° 16' W., SW. to N., stormy, much rain and cross-sea. 6th, 49° 31' N., 27° 56' W., strong N. to W. gale and heavy sea; 48° 36' N., 30° 27' W. hard NW. gale and heavy sea; 51° 06' N., 16° 38' W. high NW. sea; 54° 30' N., 15° 38' W., (7:35 a. m., Wash. mean time) barometer 29.15, S. 68° E. gale with incessant rain. 7th., 47° 58' N., 35° 18' W. hard northerly gale and squalls; 49° 12' N., 19° 43' W., WNW. stormy, heavy sea; 50° 50' N., 23° 12' W., high NW. sea; 54° 50' N., 20° 59' W. strong, SE. gale and heavy rain. 9th., 47° 11' N., 35° 39' W., high seas; 49° 54' N., 39° 05' W., fresh NE. to N. gale, high N. sea. 10th, 45° 37' N., 43° 25' W., high seas; 48° 14' N., 46° 29' W., dense fog, high sea swell. 11th., 37° N., 69° W., "tornado" from NW.; 46° 10' N., 53° 15' W., dense fog and heavy rain. 12th., 43° 37' N., 58° 52' W., dense fog; 49° 42' N., 10° 10' W. and 49° 48' N., 8° 45' W., high seas. 13th., 41° 13' N., 62° 51' W., WNW., stormy; 45° 03' N., 39° 58' W., WNW. strong wind and high sea; 51° 05' N., 16° 29' W., SW. stormy, rain and high cross sea. 14th, 45° 55' N., 44° 08' W., NW. squally, high sea; 49° 55' N., 24° 47' W., WNW. rain-squalls; 48° 58' N., 23° 04' W., very heavy sea. 15th, 43° 58' N., 46° 09' W., high confused sea; 48° 00' N., 32° 30' W., high swell; 48° 07' N., 30° 58' W., NW. stormy; 49° 57' N., 5° 00' W.,

heavy rain and sea; St. George's channel, (7:35 a. m., Wash. mean time,) barometer 29.20, S. 59° W. gale. 16th, 51° 22' N., 13° 43' W., squally; 49° 39' N., 11° 50' W., heavy sea and rain-showers; 51° 29' N., 11° 51' W., (7:35 a. m., Wash. mean time,) barometer 29.20, S. 27° W. gale, increasing to whole gale and storm, with high sea-swells. 16th and 17th, 38° N.; 68° 30' W. severe hurricane; 49° 25' N., 18° 13' W., strong SW. gales, heavy sea and rain; 49° 37' N., 7° 11' W., high W. sea; schooner Belle (from Mobile, May 4th, for Havana, dismasted in squall on 17th, abandoned on the 18th, 60 miles SSE. of Key West; 18th, 51° 26' N., 15° 08' W., high sea; 48° 47' N., 25° 05' W., high sea, heavy rain showers; 51° 35' N., 25° 16' W., (7:35 a. m., Wash. mean time,) barometer 29.49, N. 25° W. gale; 49° 37' N., 12° 15' W., SW. to W. strong gale, heavy swell and high sea. 19th, 41° 38' N., 62° 01' W., NE. squall; 51° 11' N., 21° 52' W., high sea; 40° 37' N., 15° 53' W., WNW., heavy gale and high sea. 23d, 51° 03' N., 14° 22' W., W. squally; 24th, 44° 29' N., 62° 46' W., (7:35 a. m., Wash. mean time,) barometer 29.80, N. 53° E. gale; 49° 15' N., 23° 17' W., fresh N. gale and high sea; 55° 50' N., 16° 35' W., N. squalls. 25th, 50° 00' N., 20° 45' W., NW. by W. squalls.

Ice at Sea.—March 14th, 40° N., 56° W., S. S. Borussia passed large quantity of ice. 15th, 44° 30' N., 52° 25' W., S. S. Fernwood saw large iceberg and got fast in a field of drift ice; steered SE. for 5 hours to get free and during the night passed 10 large icebergs, some of which were 100 ft. high; not entirely free until she reached 47° 22' N., 47° 20' W.

April 5th, Heath Point, Anticosti Island, Schr. Mayflower caught in ice and abandoned; during night ice moved and vessel disappeared.

May 1st, 43° N., 54° W., iceberg 60 ft. high. 4th, vessels at Canso reported obliged to abandon voyage to Magdalen Islands owing to ice; large number of vessels icebound near Eastport, P. E. Islands. Bark Presto grounded on Chatham, N. B., bar. May 8th; at night the ice came down on her and crowded her up. 10th, 42° 49' N., 50° W., 5:30 a. m., small iceberg 2 miles distant.

TEMPERATURE OF THE AIR.

The isothermal lines on chart No. II show the general distribution of the temperature of the air for the month. By reference to the table in the left-hand corner of the same chart, it will be seen that the temperature over the entire country has varied but little from the normal for the month.

Minimum and Maximum Temperatures respectively: *Maine*—at Gardiner, 31° and 72°; *Cornish*, 40°, 84°. *New Hampshire*—Mt. Washington, 13°, 58°; *Dunbarton*, 26°, 84°. *Vermont*—*Burlington*, 37°, 80°; *Woodstock*, 32°, 86°. *Massachusetts*—*Springfield*, 37°, 81°; *Bellerica*, 42°, 90°. *Rhode Island*—*Newport*, 40°, 73°. *Connecticut*—*New Haven*, 36°, 80°; *Colebrook*, 38°, 83°. *New York*—*Waterburg*, 32°, 84°; *Wappinger's Falls*, 36°, 86°. *New Jersey*—*South Orange*, 36°, 84°; *Vineland*, 43°, 86°. *Pennsylvania*—*Tioga*, 28°, 82°; *Philadelphia*, 43°, 88°. *De'aware*—*Dover*, 34°, 84°. *Maryland*—*Woodstock*, 32°, 83°; *Owings Mills*, 37°, 80°. *District of Columbia*—*Washington*, 39°, 87°. *Virginia*—*Snowville*, 32°, 88°; *Dover Mines*, 39°, 92°. *West Virginia*—*Helvetia*, 34°, 82°. *North Carolina*—*Franklin*, 39°, 83°; *Goldsboro*, 47°, 93°. *South Carolina*—*Aiken*, 50°, 94°; *Spartanburg*, 51°, 92°. *Georgia*—*Gainesville*, 50°, 93°; *Forsyth*, 58°, 94°. *Florida*—*Daytona*, 58°, 93°; *Houston*, 66°, 100°. *Alabama*—*Montgomery*, 52°, 94°; *Mobile*, 55°, 98°. *Mississippi*—*Brookhaven*, 52°, 92°; *Fayette*, 52°, 88°. *Louisiana*—*Point Pleasant*, 55°, 88°; *Algiers*, 58°, 86°. *Texas*—*Clarksville*, 51°, 91°; *Ferrill*, 62°, 98°. *Ohio*—*Hillsboro*, 41°, 79°; *College Hill*, 44°, 83°. *Kentucky*—*Danville*, 42°, 81°; *Bowling Green*, 46°, 89°. *Tennessee*—*McMinnville*, 47°, 88°; *Austin*, 42°, 91°. *Arkansas*—*Mt. Ida*, 48°, 88°; *Judsonia* 50°, 90°. *Michigan*—*Detroit*, 30°, 79°; *Litchfield*, 45°, 74°. *Indiana*—*New Harmony*, 40°, 84°; *Laconia*, 45°, 88°. *Illinois*—*Louisville*, 37°, 87°; *Como*, 35°, 83°. *Missouri*—*Wet Glaze*, 30°, 87°; *St. Louis*, 29°, 97°. *Kansas*—*Manhattan*, 33°, 85°; *Independence*, 48°, 90°. *Wisconsin*—*Neillsville*, 22°, 66°; *Beloit*, 34°, 80°. *Iowa*—*Ames*, 38°, 71°; *Logan*, 32°, 88°. *Nebraska*—*Clear Creek*, 36°, 83°; *Norfolk*, 40°, 80°. *Minnesota*—*Breckenridge*, 29°, 78°; *St. Anthony*, 37°, 80°. *Dakota*—*Olivet*, 28°, 84°. *Colorado*—*Denver*, 32°, 87°; *Ft. Lyon*, 33°, 91°. *Wyoming*—*Ft. Sanders*, 10° 71°; *Cheyenne*, 28°, 76°. *Utah*—*Salt Lake City*, 34°, 83°. *Nevada*—*Winnemucca*, 28°, 83°. *California*—*Los Angeles*, 47° 89°; *San Francisco*, 48°, 78°; *Visalia*, 45°, 97°. *Arizona*—*Yuma*, 52°, 105°.

Ranges of Temperature.—The monthly ranges will appear from examination of the minima and maxima temperatures just given.

Greatest daily ranges—vary in New England from 22°, least on Mt. Washington, to 32° at Boston; Middle Atlantic States, 19° at Cape May to 34° at Fort Whipple, Va.; South Atlantic States, 17° at Cape Hatteras to 31° at Augusta; East Gulf States, 22° at Key West to 29° at St. Marks; West Gulf States, 18° at Galveston to 29° at Shreveport; Ohio valley and Tennessee, 22° at Cairo to 34° at Knoxville; Lower Lake region, 22° at Oswego to 27° at Detroit, Erie and Rochester; Upper Lake region, 20° at Chicago and Grand Haven to 36° at Marquette; Upper Mississippi valley, 26° at Dubuque to 35° at St. Paul; Lower Missouri valley, 31° at Omaha to 39° at Yankton; Minnesota and Dakota, 34° at Bismarck to 43° at Pembina; Colorado, 27° on Pike's Peak to 42° at Denver; Utah and Nevada, 30° at Salt Lake City to 42° at Winnemucca; California, 26° at San Francisco to 40° at Red Bluff.

Frosts occurred as follows: *Maine*—14th to 16th, (17th, injured vegetation.) *New Hampshire*—7th, 13th, 15th, 17th; on Mt. Washington, 5th to 18th, 20th to 30th. *Vermont*—7th to 9th, 14th, 15th, 17th, 18th, 24th. *Massachusetts*—7th, (13th, injured vegetation,) 17th. *Connecticut*—11th to 14th. *New*